AMENDMENTS TO THE SPECIFICATION

On Page 1, please add the following paragraph after the title, and before the heading "*TECHNICAL FIELD*":

CROSS-REFERENCE TO RELATED APPLICATION

This application is based upon and claims the benefit of priority from Japanese Patent Application No. 2004-028079, filed on February 4, 2004, the entire contents of which are incorporated herein by reference.

Please replace the Paragraph beginning on Line 20 of Page 3 with the following paragraph rewritten in amendment format:

Non-patent document 5: "Low-Noise Optical Frequency Comb Generation Using Phase Modulator," 1st Microwave/Millimeter Wave Photonics (MWP) Research Meeting, The Institute of Electronics, Information and Communication Engineers, ~~MWP03-3~~ MWP03-4, 2003.

Please replace Paragraph [0022] beginning on Line 25 of Page 8 with the following paragraph rewritten in amendment format:

[0022]

A 17th invention is such that the mode-locked laser according to the first invention further includes: a CNR/intensity measuring part which detects a CNR or intensity of a beat note of the master laser light and a longitudinal mode included in optical output of the mode-

locked laser section; and an optical resonator length control section which controls an optical path length of the optical resonator of the mode-locked laser section, in which the optical resonator length control section controls the optical path length of the optical resonator so that the CNR or the intensity of the beat note measured by the ~~linewidth~~ CNR/intensity measuring part is to be maximum or highest.

Please replace Paragraph [0027] beginning on Line 24 of Page 10 with the following paragraph rewritten in amendment format:

[0027]

An optical multi-carrier source according to a 22nd invention includes the mode-locked laser according to any one of the first to ninth inventions; a waveguided optical nonlinear medium which receives optical output of the mode-locked laser and outputs optical multi-carrier that is generated by broadening a spectrum of the optical output of the mode-locked laser; a CNR/intensity measuring part which detects a CNR or intensity of a beat note of the master laser light and an optical carrier included in optical output of the waveguided optical nonlinear medium; and an optical resonator length control section which controls an optical path length of the optical resonator of the mode-locked laser section, in which the optical resonator length control section controls the optical path length of the optical resonator so that the CNR or the intensity of the beat note measured by the ~~linewidth~~ CNR/intensity measuring part is to be maximum or highest.

On page 13, please add the following paragraph before paragraph [0035] and after the heading *"BRIEF DESCRIPTION OF THE DRAWINGS":*

The nature, principle, and utility of the invention will become more apparent from the following detailed description when read in conjunction with the accompanying drawings in which like parts are designated by identical reference numbers, in which:

Please replace Paragraph [0063] beginning on Line 20 of Page 25 with the following paragraph rewritten in amendment format:

[0063]

Referring to the figure, part of master laser light that is made to branch off by an optical splitter 46-1 and part of optical output of the mode-locked laser section 20 that is made to branch off by an optical splitter 46-2 are combined with each other by an optical mixer 49. The CNR or intensity of a beat note of the master laser light and one (closest in frequency to the master laser light) of longitudinal modes included in the optical output is monitored by the CNR/intensity measuring section ~~51~~ 52 and the locking state is thereby judged. The optical resonator length control section 44 controls the optical path length of the optical resonator of the mode-locked laser section 20 in accordance with the monitoring result of the CNR/intensity measuring section ~~51~~ 52. The optical path length of the optical resonator is controlled in the same manner as in the sixth embodiment. The optical mixer 49 may be an optical detector such as a photodetector. The CNR can be measured more

easily by a configuration in which optical heterodyne detection is performed, for example, by shifting the frequency of master laser light with an optical frequency shifter 50.

Please replace Paragraph [0064] beginning on Line 9 of Page 26 with the following paragraph rewritten in amendment format:

[0064]

When the mode-locked laser section 20 is locked with master laser light, the CNR of a beat note of the master laser light and a longitudinal mode included in optical output of the mode-locked laser section 20 is at maximum and its intensity is highest. Therefore, the optical resonator length control section 44 can maintain a locking state by controlling the optical path length of the optical resonator so that the CNR or intensity of a beat note measured by the ~~CNR~~ CNR/intensity measuring section ~~48~~ 52 to be maximum or highest.

Please replace Paragraph [0067] beginning on Line 10 of Page 27 with the following paragraph rewritten in amendment format:

[0067]

That is, each of a set of the master laser 10, a mode-locked laser section 20m, and a signal generating section 30m of the node 100m and a set of a mode-locked laser section 20s and a signal generating section ~~30m~~ 30s of the node 100s corresponds to any of the mode-locked lasers according to the first to 12th embodiments. In this embodiment, part of master laser light that is output from the master laser 10 of the node 100m is made to branch

off by an optical splitter 46, transmitted to the node 100s via the optical fiber transmission line 200, and input to the mode-locked laser section 20s to cause injection locking.

Please replace Paragraph [0073] beginning on Line 16 of Page 29 with the following paragraph rewritten in amendment format:

[0073]

(16th Embodiment of Mode-locked Lasers)

Fig. 21 shows a 16th embodiment of mode-locked lasers according to the invention. This embodiment is characterized in that in the 15th embodiment the frequency f of a periodic signal is divided to f/K (K being an integer) in the signal generating section 30 of the node 100m, and optical output of the light source 73 is modulated according to the periodic signal having the frequency f/K and then transmitted to the node 100s. Signal generating sections 32m and 32s of the nodes 100m and 100s convert the periodic signals having the frequency f/K to periodic signals having the frequency f by multiplying the frequency f/K and inputs those signals to the mode-locked laser sections 20m and 20s, respectively. The other part of the configuration is the same as in the 15th embodiment. Optical output of the light source 73 may be transmitted via the single optical fiber transmission line 200 by means of wavelength multiplexing through an optical multiplexer and an optical demultiplexer.

Please replace Paragraph [0074] beginning on Line 5 of Page 30 with the following paragraph rewritten in amendment format:

[0074]

In the case where an optical signal modulated according to a periodic signal having the frequency f may be distorted in traveling through the optical fiber transmission line ~~201~~ 200 or 201, this embodiment makes it possible to avoid such distortion that might otherwise occur in the optical fiber transmission line ~~201~~ 200 or 201 by transmitting an optical signal that has been modulated according to a periodic signal having the lower frequency f/K.

Please replace Paragraph [0089] beginning on Line 7 of Page 35 with the following paragraph rewritten in amendment format:

[0089]

Inputting optical output of the mode-locked laser to the optical pulse compressor 4 increases the peak intensity and thereby allows the waveguided optical nonlinear medium 2 to generate many optical carriers. Where the degree of chirping of optical pulse train is high, a dispersive medium such as an optical fiber or a Bragg grating capable of canceling out chirping is used as the ~~pulse compressor optical carrier 4~~ optical pulse compressor 4. Where the degree of chirping of optical pulse train is low, a soliton effect or the like in an optical fiber is utilized.

On Page 36, please add the following paragraph beginning on Line 10, at the end of the "*BEST MODE FOR CARRYING OUT THE INVENTION*" section and before the heading "*INDUSTRIAL APPLICABILITY*":

The invention is not limited to the above embodiments and various modifications may be made without departing from the spirit and scope of the invention. Any improvement may be made in part or all of the components.